

## Maternal and Child Health

*We envision a Maine where all individuals, families, and communities enjoy optimal health and quality of life.*

*During the last decade, maternal and child health efforts have succeeded in improving several health status objectives impacting the condition of Maine's families. During the same time, it has been acknowledged nationally that families include more than just the mother and children. Families also include fathers, grandparents, and other extended family members. While we continue to pursue prevention methods and promote measures to enhance the health status of our population and address the challenges impacting the health of Maine's women, infants, and children, we will also adopt this broader view of family.*

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## Healthy Maine 2000 Goal

### Improve the Health Status of Women, Infants, and Children

#### Overview

**M**aine's maternal child population accounts for almost half of our total population and consists of women of reproductive age and all children. Over the last decade, many factors influencing the health status of this population have emerged. For instance, there have been significant shifts in parenting and employment patterns, changes in the overall health care delivery system, establishment of early diagnostic and treatment programs, and improved neonatal transport systems.

Several socioeconomic and demographic conditions pose special challenges to the health of Maine's maternal child population. For instance, thirty years ago, family couples led almost ¾ of all households in Maine. By contrast, only about half of households are now led by family couples. As a result, about one quarter of our children live in single-parent households, most of these headed by women. These changes present a variety of challenges to Maine families since the Institute for Women's Policy Research in 1996 reported that the estimated median annual earnings for women working full-time in Maine are only \$16,540. In addition, about one in six Maine children live in poverty. Maine continues to have one of the lowest rates of youth attaining a post secondary school degree. And, Maine's maternal child population is most likely to live in a rural area of the State. Therefore, while race and

ethnicity are generally associated with health disparities in more urban states, Maine's health disparities, especially among our maternal child population, are primarily correlated with differences in income, education, and the low population densities of our rural areas.

Despite these various socioeconomic and demographic challenges, many efforts have improved the status of Maine's maternal and child health population over the last decade.

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For instance, Maine has been successful in improving access to health insurance for many of Maine's families. In 1998, Maine's Child Health Insurance Program (CHIP) resulted in expanded access to state health and dental insurance for children. About 9000 Maine children are now enrolled in this expansion of Maine Medicaid or its low cost alternative, Cub Care (for those at incomes between 150% and 200% of federal poverty level). Census surveys (Current Population Surveys) in the 1990s showed that up to about 16% of Maine children lacked health insurance. A survey commissioned by the Maine Department of Human Services in 1999 – 2000 has found preliminarily that this rate has dropped to about 8%.

In 2000, parents of children with Medicaid insurance are being offered Medicaid insurance if they earn up to 150% of the federal poverty level. Pregnant women in Maine are also recently eligible for an expansion of Medicaid insurance if they earn up to 200% of the federal poverty level. As of July 2000, a record 173,000 Maine people, mostly from our maternal and child population, are enrolled in Medicaid.

It has also been increasingly recognized that early parental support and resources leading to early childhood stimulation and family interventions are important for giving our children a healthy start. One statewide initiative that has resulted from this understanding is a network of home visitation programs for families of newborns. State funding for these programs was initiated in 1995, and substantial funding from the tobacco settlement is resulting in these programs being expanded to provide at least every first time family home visits. By assessing a family's needs and linking them to appropriate resources, this firsthand connection with Maine's families is important in working toward eliminating many health disparities and challenges faced by our maternal and child population.

Additionally, a number of people and organizations are beginning to realize the importance of a supportive environment for families throughout their children's youth. For instance, in the mid-1990s, Communities for Children began as an initiative started by Governor King's Children's Cabinet. Currently, over 60 Communities for Children work to coordinate and augment local and state resources for their youth. One major focus area, Maine Promise, tries to assure that

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every child lives in an environment supportive of a healthy start, an education leading to marketable skills, opportunities to serve, a healthy relationship with a non-parent adult, and structural activities in their spare time. Hopefully, with these new comprehensive and preventive approaches, Maine's families will find it easier to make healthier choices.

Another example of an early intervention program that has had a substantial impact this past ten years is the expansion of newborn genetic screening. By the end of the decade, 99% of Maine newborns are screened by a simple blood test for 8 genetic disorders, which if diagnosed and treated early, can result in saving lives and preventing lifelong disability. 100% of newborns with confirmed positive tests currently receive treatment within one week of diagnosis.

Since maternal child morbidity and mortality rates are at their highest in the perinatal period, ensuring access to appropriate health services in a rural state like Maine can be challenging. However, over the past decade, substantial progress has been made in this area. High-risk perinatal medical services are centered in Maine's three largest cities with Level III facilities located in Portland and Bangor, and a Level II facility in Lewiston. Outlying health care facilities in conjunction with these three hospitals work cooperatively to ensure that high risk pregnant mothers are transported appropriately to a facility prior to delivery. If this is not possible before delivery, or if an infant is born with unexpected complications, then specialized neonatal transportation units are utilized to bring sick newborns to the appropriate facility. Only ten years ago, such transportation systems did not exist.

*In any society, infant mortality is a key barometer of the overall health of the society.*

Despite many challenges faced by Maine women and children, substantial progress has been made to set up systems of outreach resulting in improved access to preventive and treatment resources. As a result, many health indicators among our maternal child population have improved or been maintained.

### **Focus Areas** **Infant Mortality**

In any society, infant mortality is a key barometer of the overall health of the society. Many public health and medical factors impact infant mortality rates as well as various socioeconomic, demographic, educational, environmental and infrastructural factors. The health of two vulnerable populations - infants and women in the perinatal period - must be maintained in order to achieve low infant mortality rates. Many factors contribute to the maintenance of Maine's low infant mortality rate. Such factors include the following: early and consistent access to prenatal care; utilization of best practices in prenatal care; and implementation and maintenance of a perinatal and neonatal transport system.

*During the latter half of the 1990s, Maine became one of few states to provide all necessary childhood vaccines for free to all families.*

Of the infant deaths that remain, 24% per year are related to the presence of a birth defect. With federal (CDC) funding and assistance from Maine March of Dimes and a number of Maine people and organizations, the Bureau of Health is implementing a birth defects registry in order to identify children with birth defects early and to link them and their families to comprehensive resources. Hopefully, we can assure a healthier start for these families as well.

In addition, as new information about preventing birth defects becomes known, we face challenges in disseminating that knowledge. For example, over the last several years, more information about the importance of taking folic acid in preventing neural tube defects and of avoiding alcohol in preventing other birth defects has been disseminated across the State by a variety of agencies and organizations, including the Maine March of Dimes.

Among the factors which will continue to challenge maintaining Maine's low infant mortality rate is the increase in multiple births, particularly those influenced by assisted reproductive technology (ART) such as in-vitro fertilization. A second challenge is our changing demographics and the need for responsive perinatal health care. For instance, we need to respond to the varied health challenges of refugee populations such as nutritional deficiencies, infectious and non-endemic diseases, and traumatic circumstances.

### **Low Birth Weight**

Maine continues to identify and respond to factors influencing the birth weight of Maine's newborns, such as prenatal tobacco addiction, poor prenatal care and poor nutritional status. The early initiation of prenatal care during the first trimester and the resulting early identification of low birth weight risk factors permits implementation of interventions that halt the negative impact prior to birth.

### **Prenatal Care**

Challenges to receiving or accessing prenatal care include: the geographic distribution of providers in relation to the population; the ability to pay for the services; transportation for

women living in rural areas or without access to a vehicle; and particularly in the last decade, the ability for pregnant women to balance employment demands within the hours that provider services are available.

### **Breastfeeding**

The goal of increasing breastfeeding rates continues to be a challenge. The American Academy of Pediatrics recommends that all infants be breastfed at least until one year of age because of the many medical and nutritional benefits. However, because most mothers are now returning to the workplace within weeks of delivery, barriers such as workplace environments and work schedules present challenges.

This challenge is made greater by Maine's limited ability to monitor breastfeeding rates across infancy. Over the last decade, initial breastfeeding rates (i.e., women breastfeeding one week or more) have increased, but limited systems for monitoring breastfeeding rates beyond initiation make it difficult to measure ongoing breastfeeding. The Women, Infants and Children (WIC) program provides the longest data period (up to 1 year of age), but it reports on a limited population (i.e., clients of the program). An ongoing challenge is to develop longer term tracking systems by which a broader population is captured.

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### **Childhood Immunizations**

The Bureau of Health is implementing a web-based immunization-information system called ImmPact. When the system is fully operational, it will provide education and information tools to our health care providers, enabling them to provide easier access for Maine's families to immunizations and other children's health resources.

During the latter half of the 1990s, Maine became one of few states to provide all necessary childhood vaccines for free to all families. Challenges we face include being able to continue providing these vaccines because of the increasing number and costs of these immunizations. See the Immunization and Infectious Disease chapter for more information.

## Healthy Maine 2000 Objectives

Objectives established to improve the health status of women, infants, and children

### Health Status Objective

**Decrease the rate of infant mortality to 5.6 per 1,000 live births.**

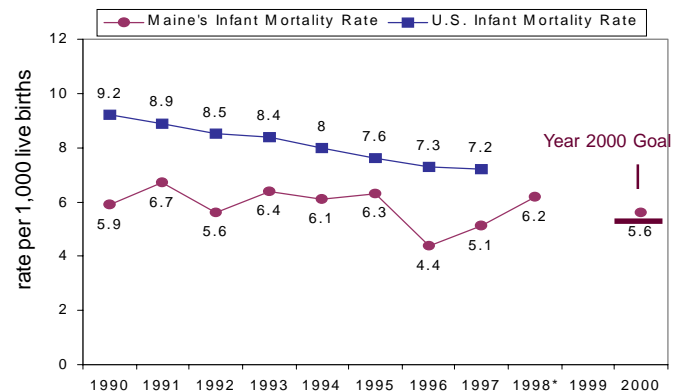
**Maine 1990 Baseline: 5.9**

**Most Recent Data: 1998, 6.2**

Maine's 1996 infant mortality rate was the lowest in the country at 4.4 per 1,000. Maine's 1997 infant mortality rate was also low at 5.1 per 1,000, as compared to a national infant mortality rate of 7.2 per 1,000. The infant mortality rate for 1998 was slightly higher than the previous year at 6.2 per 1,000, but is still significantly lower than the national rate.

Comparing rates from year to year can be misleading because of the potential of large rate changes as a result of Maine's small population. For that reason, it is more accurate to look at five-year averages. As indicated in the adjacent graph, Maine's infant mortality rates reported in five-year averages are 8.3 per 1,000 live births for years 1984-1988, 6.3 per 1,000 live births for years 1989-1993, and 5.6 per 1,000 live births for the most recently reported five years, 1994-1998. Factors contributing to this improvement include good nutrition, early and consistent prenatal care, perinatal and neonatal transport system, and advances in neonatal medicine.

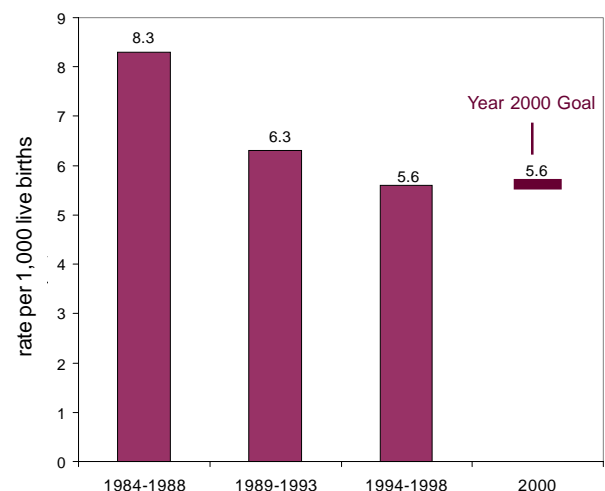
Maine's Infant Mortality Rate  
1990-1998



\*Indicates preliminary data. U.S. 1998 Infant Mortality rate is not yet available.

Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics. National level data obtained from Centers for Disease Control and Prevention, National Center for Health Statistics, *Vital Statistics of the United States, vol. II, mortality, part A, for data years 1950-1996. Deaths: Final Data for 1997, National Vital Statistics Reports, vol. 47, no. 19, 6/30/99.*

Maine's Infant Mortality Rates  
Reported in Five-Year Averages  
1984-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics

## Healthy Maine 2000 Objectives

*Objectives established to improve the health status of women, infants, and children*

### Health Status Objective

**Decrease the incidence of low birth weight (less than 2500 grams) to 5%.**

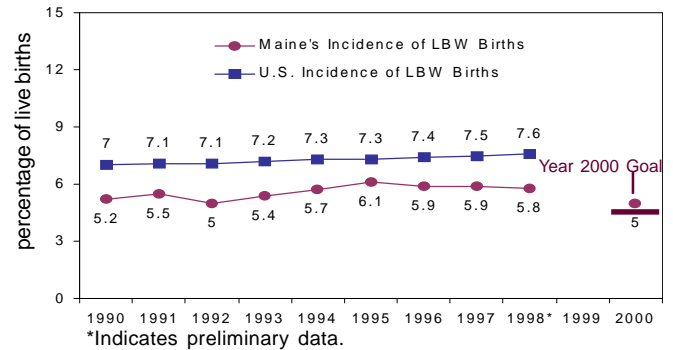
**Maine 1990 Baseline: 5.2**  
**Most Recent Data: 1998, 5.8**

The baseline in 1990 indicated that low birth weight births represented 5.2% of all live births. The incidence of low birth weight was inconsistent and continued to rise and fall during the first half of the decade, peaking at 6.1% in 1995. Since then, the rate has continued to decline and improve, but has not reached the year 2000 goal. As with the infant mortality rate, fluctuations in this rate is influenced by Maine's small population.

As the chart with five-year average for low birth weight (LBW) births dramatically illustrates, Maine is moving away from the Year 2000 goal. This is a phenomenon occurring nationally as well. Preliminary analysis from national data shows correlation between increased LBW births and the increased use of assisted reproductive technology.

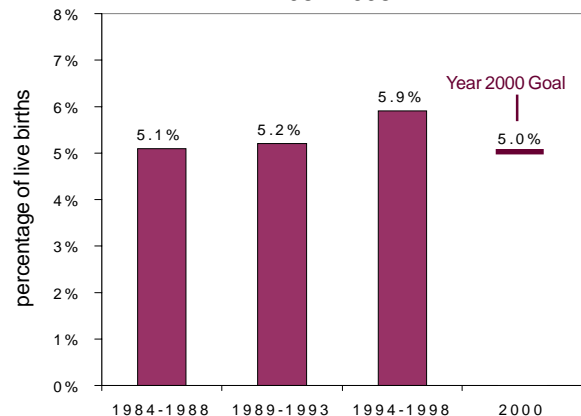
Of the 13,720 live births in 1998, 5.8% of these births were low birth weight births. Preterm births are a leading risk factor for low birth weight. In the 1990s, some progress has been made in preventing low birth weight among preterm births. However, despite this improvement, the rate of low birth weight appears to be increasing. This might result from the increased use of assisted reproductive technology and the resulting increase in multiple births. Another important contributing factor to LBW is the high proportion of pregnant women in Maine who consume tobacco during their pregnancy.

Maine and U.S. Incidence of Low Birth Weight Births, 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics. National level data obtained from the Centers for Disease Control and Prevention, National Center for Health Statistics. For data years 1950-1996, *Births: Final Data for 1997, NVSR, vol.47, no.18, 4/19/99*. Births: Final Data for 1998, NVSR, vol.48, no.3, 3/28/00.

Maine's Low Birth Weight Births Reported in Five-Year Averages 1984-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics

## Healthy Maine 2000 Objectives

Objectives established to improve the health status of women, infants, and children

### Health Status Objective

**Decrease the percent of pregnant women who smoke during the last trimester of pregnancy to 10%.**

**Maine 1990 Baseline: 24.3%**

**Maine Most Recent Data: 1998, 19.1%**

According to PRAMS survey data, Maine has achieved some success in reducing the percentage of pregnant women who consume tobacco. The baseline for 1990 reported that 24.3% of pregnant women smoked during the last trimester of pregnancy. In 1998, (the most recent data) the percent of pregnant women who smoked during their last trimester dropped to 19.1%. However, strong evidence exists which shows that about half of Maine women who are pregnant and under 20, and half of those earning low incomes are tobacco addicted throughout their pregnancy. While there has been progress in reducing prenatal smoking, when compared to national levels, Maine is still substantially and consistently higher than national levels.

Research in recurrent behaviors, such as substance addiction, indicates that cessation is strongly influenced by stages of change. Pregnancy is a time when women are highly motivated to make positive changes in their health practices/behaviors. Therefore, this is an ideal time to work with and support women in their tobacco cessation efforts. This is an area requiring continued attention across multiple program initiatives.

### Health Status Objective

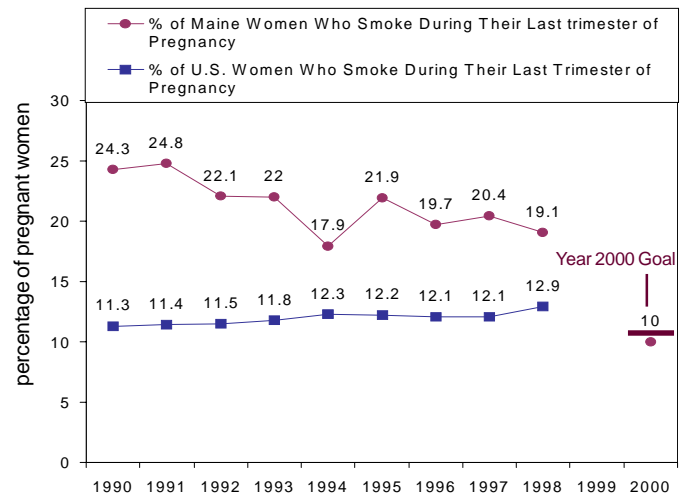
**Increase to 90% the proportion of women receiving prenatal care in the first trimester of pregnancy.**

**Maine 1990 Baseline: 84.2%**

**Maine Most Recent Data: 1998, 88.5%**

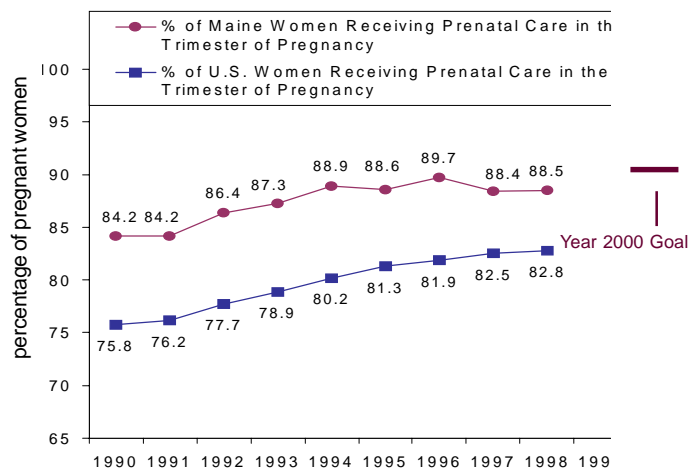
Maine has come close but has yet to achieve and maintain the goal for this objective. From 1990 through 1996, there was a steady increase in the proportion of women receiving early (in the first trimester) prenatal care (PNC). There has been a small decrease in the proportion of women receiving early PNC since 1996. During the 1990s, the economy has improved and more of Maine's residents have had access to insurance via their employers and Medicaid. In 2000, Maine Medicaid eligibility has been lifted to qualify pregnant women from 185% to 200% of the federal poverty level. This should have a positive impact on prenatal care.

Maine and U.S. Pregnant Women Who Smoke (During Last Trimester) 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics, PRAMS. National level data is percent based on live births with known smoking status of mother (not all states reported for all years, approximately 43-46 states reporting). National level data was obtained from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistic Reports, vol.48, no.18. *Births: Final Data for 1998, NVSR, vol.48, no.3, 3/28/00.*

Maine and U.S. Women Receiving Prenatal Care (During 1st Trimester) 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics. National level data was obtained from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistic Reports, vol.48, no.18. *Births: Final Data for 1998, NVSR, vol.48, no.3, 3/28/00.*

## Healthy Maine 2000 Objectives

*Objectives established to improve the health status of women, infants, and children*

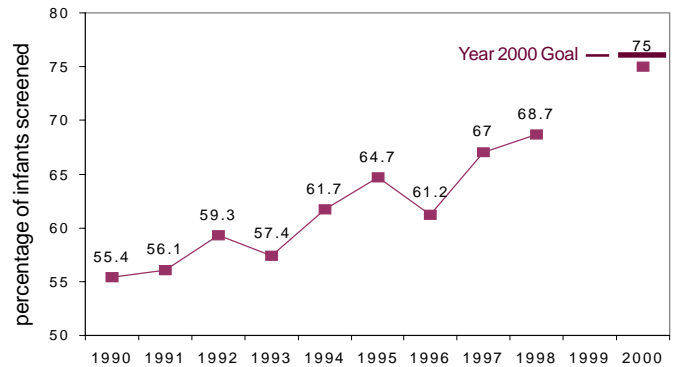
### Surveillance and Protection Objective

*Increase to 75% the proportion of infants who are breastfed one week or more.*

**Maine 1990 Baseline: 55.4%**  
**Maine Most Recent Data: 1999, 68.7%**

Data for this objective was obtained from the PRAMS survey. Maine's most accurate data source for information on breastfeeding initiation rates are obtained from hospital discharge data that come from the newborn screening filter paper forms. At present, the PRAMS survey provides the most useful data through early infancy (i.e., up to 13 weeks of age).

Maine Proportion of Infants  
Who Are Breastfed One Week or More  
1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics, PRAMS

### Surveillance and Protection Objective

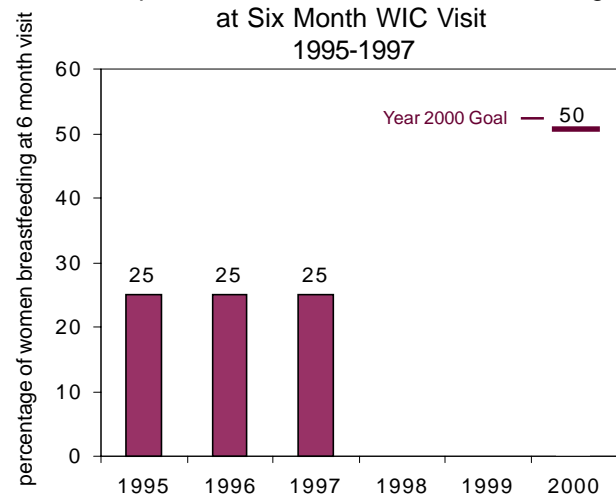
*Increase to 50% the proportion of women breastfeeding infants at six months.*

**Maine 1995 Baseline: 25%**  
**Maine Most Recent Data: 1997, 25%**

Currently generalizable data on long term breastfeeding rates is very limited. The Women, Infants and Children (WIC) program provides the longest data period (up through 1 year of age); however, the data reports on a limited population (i.e., clients of the program) and cannot be generalized to the population as a whole.

Mother face many barriers to continued breastfeeding, including workplaces and work schedules that present challenges. The American Academy of Pediatrics recommends breastfeeding for at least one year because of the many medical and nutritional benefits.

Proportion of Maine Women Breastfeeding  
at Six Month WIC Visit  
1995-1997



Source: Maine Department of Human Services, Bureau of Health, Women, Infants, and Children, Program Data

**Note:** Breastfeeding objectives were added to Healthy Maine 2000 initiatives in 1996. WIC data was not available prior to 1995 (i.e., no computerized data system).

## Healthy Maine 2000 Objectives

*Objectives established to improve the health status of women, infants, and children*

### Health Status Objective

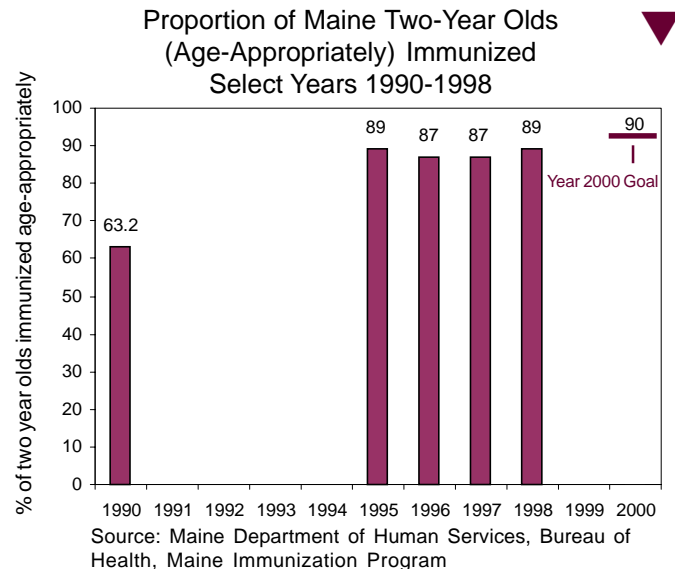
***Increase to 90% the percentage of two-year-olds who are age-appropriately immunized.***

**Maine 1990 Baseline: 63.2%**

**Maine Most Recent Data: 1998, 89%**

Maine has made significant progress towards achieving this objective. In 1997 Maine had the highest immunization rates in the United States. In the years since, Maine continues to be one of the top five states in the U.S. for immunization rates.

Through funds from CDC, Maine Medicaid, and Maine's HMOs, the Bureau of Health is able to provide all the childhood immunizations recommended by ACIP at no cost to families. Programs such as this, as well as a commitment from Maine's pediatric health care providers, has resulted in Maine achieving and maintaining one of the highest immunization rates in the United States. Immunizations for Maine's children are provided through well child clinics, private providers, and some schools.



**\*Note:** The 1990 baseline data for this objective was obtained from the results of a 1990 CASA survey and was used primarily for establishing a baseline for this objective. Data reported for years 1995 through 1998 was obtained from the Center for Disease Control's (CDC) National Immunization Survey. Calendar year data was not available from CDC until 1995.